What is claimed is:

1. An antibody which binds to IGF-IR wherein said antibody inhibits the binding of IGF-I and IGF-II to IGF-IR, and further wherein said antibody

a) is of a IgG1 isotype, and

b) shows a ratio of inhibition of the binding of IGF-I and IGF-II to IGF-IR of 1:3 to 3:1, and further

c) induces cell death of 20% or more cells of a preparation of IGF-IR expressing cells after 24 hours at a concentration of 100 nM of said antibody in an antibody dependent cellular toxicity assay.

2. The antibody of claim 1, characterized in that said antibody induces death of 20% or more cells of a preparation of IGF-IR expressing cells after 4 h at an antibody concentration of 100 nM of said antibody in a complement dependent cytotoxicity (CDC) assay.

3. The antibody of claim 1, wherein said antibody is a human or humanized antibody.

4. The antibody of claim 1, wherein said antibody binds to the IFG-IR with an affinity of about 10^{-11} to 10^{-8} M (K_D).

5. The antibody of claim 1, wherein said antibody binds to the IFG-IR with an affinity of about 10^{-11} to 10^{-9} M (K_D).

6. The antibody of claim 1, wherein said antibody further comprises complementarity determining regions (CDRs) having the following sequences:

a) an antibody heavy chain having CDRs comprising CDR1 (aa 31-35), CDR2 (aa 50-66) and CDR3 (aa 98-108) of SEQ ID NO:1, wherein amino acid 31 can be asparagine or serine, amino acid 66 can be glycine or can be deleted, and amino acid 104 can be glutamic acid or aspartic acid; and

b) an antibody light chain having CDRs comprising CDR1 (aa 18-34 or aa 24-34), CDR2 (aa 50-56) and CDR3 (aa 89-98) of SEQ ID NO:2, wherein amino acid 96 can be proline or isoleucine, and amino acid 98 can be phenylalanine or can be deleted.

7. An antibody according to claim 1, wherein said antibody further comprises:

a) a heavy chain comprising a variable region (VH) of SEQ ID NO:1, wherein amino acid (aa) 30is serine or arginine, aa 31 is asparagine or serine, aa 94 is histidine or tyrosine and aa 104 is aspartic acid or glutamic acid, further comprising a human heavy chain constant region (CH); and

b) a light chain comprising a variable region (VL) of SEQ ID NO:2, wherein aa 96 is proline or isoleucine, aa 100 is proline or glutamine, aa 103 is arginine or lysine, aa 104 is valine or leucine and aa 105 is aspartic acid or glutamic acid, and further comprising a human light chain constant region (CL).

8. The antibody of claim 7, wherein the heavy chain amino acids 30, 31, 94 and 104 are the following:

a) aa 30 Arg, aa 31 Asn, aa 94 Tyr and aa 104 Asp, or

b) aa 30 Arg, aa 31 Ser, aa 94 Tyr and aa 104 Asp, or

c) aa 30 Ser, aa 31 Asn, aa 94 His and aa 104 Glu.

9. The antibody of claim 7, wherein the light chain amino acids 96, 100, 103, 104 and 105 are the following:

a) aa 96 Pro, aa 100 Pro, aa 103 Lys, aa 104 Val and aa 105 Asp, or

b) aa 96 Ile, aa 100 Gln, aa 103 Arg, aa 104 Leu and aa 105 Glu.

10. The antibody of claim 1 wherein said antibody is obtainable from a hybridoma cell line consisting of the group selected from <IGF-1R> HuMab Clone 1a, <IGF-1R> HuMab Clone 23 and <IGF-1R HuMab Clone 8.

11. A pharmaceutical composition comprising said antibody of claim 1 wherein said antibody is present in said pharmaceutical composition in a pharmaceutically effective amount.

12. A hybridoma cell line wherein said cell line is selected from the group consisting of <IGF-1R> HuMab Clone 1a, <IGF-1R> HuMab Clone 23 and <IGF-1R HuMab Clone 8.

13. A nucleic acid encoding the antibody of claim 6.

14. A nucleic acid encoding the antibody of claim 7.

15. An expression vector comprising a nucleic acid of claim 13 , wherein said vector is capable of expressing said nucleic acid in a prokaryotic or eukaryotic host cell.

16. An expression vector comprising a nucleic acid of claim 14, wherein said vector is capable of expressing said nucleic acid in a prokaryotic or eukaryotic host cell.

17. A prokaryotic or eukaryotic host cell comprising the vector of claim15.

18. A prokaryotic or eukaryotic host cell comprising the vector of claim 16.

19. A method for the production of an antibody binding to IGF-IR and inhibiting the binding of IGF-I and IGF-II to IGF-IR, characterized by expressing a nucleic acid encoding a heavy chain and a nucleic acid encoding a light chain according to claim 13 in a prokaryotic or eukaryotic host cell and recovering said polypeptide from said cell.

20. A method for the production of a polypeptide binding to IGF-IR and inhibiting the binding of IGF-I and IGF-II to IGF-IR, characterized by expressing a nucleic acid encoding a heavy chain and a nucleic acid encoding a light chain according to claim 14 in a prokaryotic or eukaryotic host cell and recovering said polypeptide from said cell.

21. A method for the treatment of a patient in need of an antitumor therapy, wherein said antibody of claim 1 is administered to said patient in a therapeutically effective amount.

22. The method of claim21, wherein said antibody is administered in combination with a cytotoxic agent, a prodrug thereof or a cytotoxic radiotherapy.